Title

AUSTDAC MINE TELEPHONE

TYPE A103

USER'S MANUAL

Document Number

27-225-12

Issue

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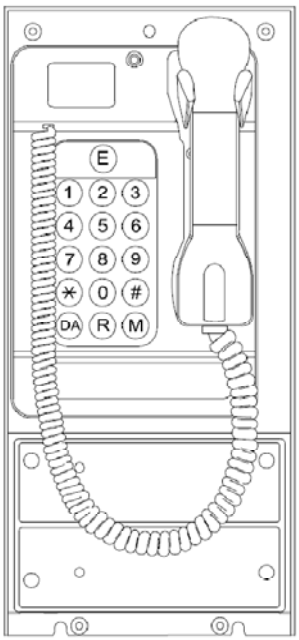

REVISION CONTROL

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IMPORTANT

ALL POSSIBLE MEASURES MUST BE TAKEN TO ENSURE WATER, FLUID OR DUST DOES NOT CONTAMINATE THE INTERNAL COMPONENTS OF THIS TELEPHONE WHILST UNPACKING, PREPARING AND INSTALLING.

FAILURE TO CARRY OUT THIS PRECAUTION WILL INVALIDATE CERTIFICATION AND YOUR WARRANTY.

PLEASE READ THESE INSTRUCTIONS THOROUGHLY BEFORE STARTING INSTALLATION.

THIS IS A CERTIFIED PRODUCT: CONFIGURATION AND INSTALLATION SHOULD BE CARRIED OUT BY A COMPETENT PERSON.

ANY CONFIGURATION ADJUSTMENTS SHOULD BE CARRIED OUT IN A SAFE AREA PRIOR TO INSTALLATION.

A103 Mine Telephone

IEC and ATEX Approved

1 PRODUCT DESCRIPTION

The A103 telephone is an intrinsically safe telephone designed for use in mining applications. It has been design to be a direct replacement for the now obsolete A101 and A102 telephone.

The A103 telephone comprises of a carbon loaded glass filled polyester telephone encased in a metallic surround which also contain the customer termination box referred to as the terminal chamber throughout this document.

Note: The A103 telephone contains a BP004 which is an ATEX/IECEx certified rechargeable battery only for use in GAI-Tronics telephones. This battery will be disconnected upon despatch from the factory and will therefore need to be reconnected during the installation process.

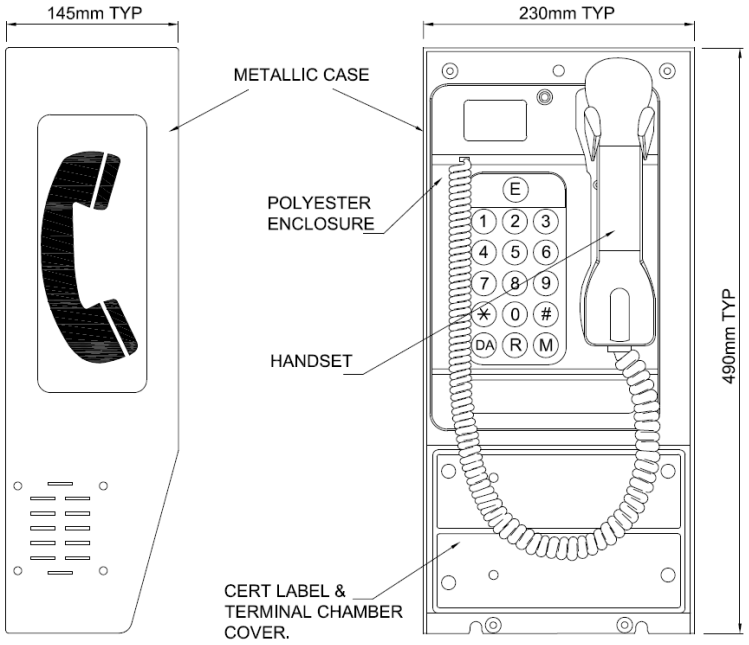


Figure 1 – A103 Mine Telephone

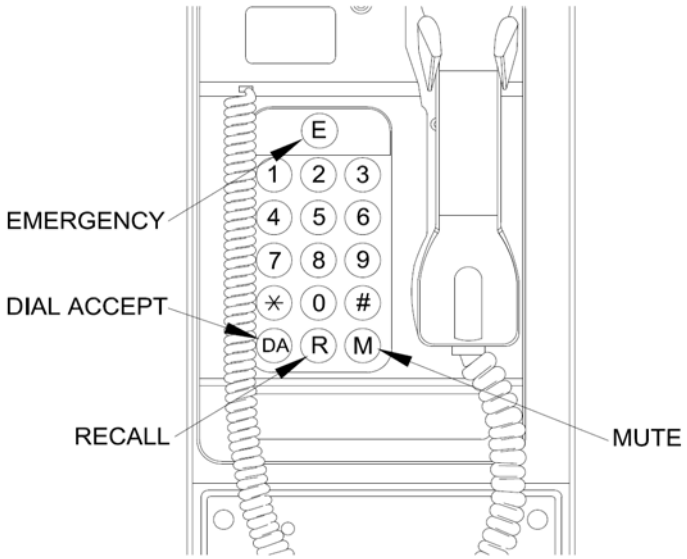


Figure 2 – Keypad

2 OPERATION

2.1 MAKING AND RECEIVING CALLS

To make a call, press and release the DA button, wait for dial tone, dial required digits and wait for connection. Lift the handset and use the press to talk (PTT) on the handset when connected. Note: when the PTT is released during a call the telephone will broadcast the received audio on the internal speakers located in the termination chamber.
To end a call, press and release the 'R' button to go on hook and replace the handset in its cradle.
To receive a call, ringing will be heard from the speakers and the strobe will flash. Press and release the 'DA' button to go off hook, lift the handset and talk as before with the PTT operated or lift the handset and operate the PTT will also answer an incoming call.

Note: After a call duration of 90 seconds the A103 telephone will sound a series of 5 beeps indicating to the user that the call is about to be terminated. This is to ensure the A103 telephone cannot be left in an off hook state indefinitely.
If the user wishes to continue with the existing call in progress, operate and release the 'DA' for a further 90 seconds…

2.2 EMERGENCY

Press E key to broadcast the 1850Hz emergency tone as default or the predefined emergency number.
Note: there is an optional hinged cover that can be fitted to the phone to protect the button from accidental use.

2.3 MUTE FUNCTION

Press M key to mute the microphone during a call.

3 INSTALLATION

Please read all these instructions thoroughly before starting installation.

Check the certification regarding the type of cable that is allowed to be used for installation.

PRE-INSTALLATION

IMPORTANT WARNING - Gland Specifications

Glands are supplied. All glands and blanking plugs should be rated at IP55 or better to maintain case sealing integrity.

ALL POSSIBLE MEASURES MUST BE TAKEN TO ENSURE WATER, FLUID OR DUST DOES NOT CONTAMINATE THE INTERNAL COMPONENTS OF THE TELEPHONE WHILST UNPACKING, PREPARING AND INSTALLING IT IN INCLEMENT WEATHER CONDITIONS OR BY NEGLIGENCE.

FAILURE TO TAKE THIS PRECAUTION WILL INVALIDATE YOUR WARRANTY AND MAY INVALIDATE THE CERTIFICATION OF THE TELEPHONE.
IF ONLY ONE CABLE GLAND ENTRY IS USED, A SEALING PLUG MUST BE FITTED TO THE SECOND GLAND POSITION.

THE TELEPHONE POLYESTER ENCLOSURE MUST NOT BE OPENED IN THE HAZARDOUS AREA!

3.1 MOUNTING DETAILS

Mounting the telephone can be made by either fixing points ‘A’ or ‘B’ as shown in figure 2.
For option ‘A’ use 3 x 8mm diameter screws with suitable plugs for the wall type to be installed upon.
For option ‘B’ use 4 x M6 x 1.0 bolts.

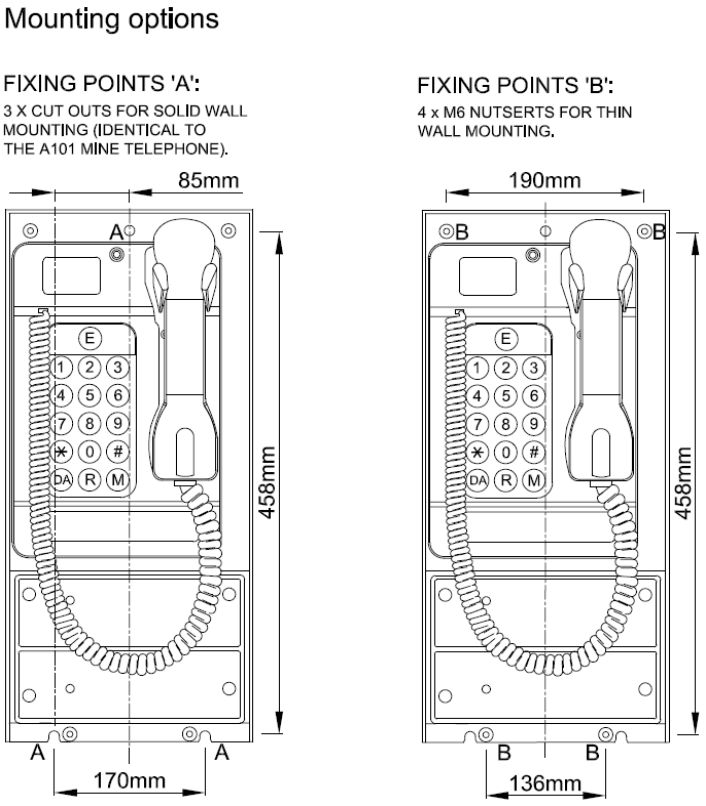


Figure 2.

3.2 TERMINATION

Connection should only be made to a Safe Telephone System, either the ST1 or ST2 series exchanges.

The telephone may be connected as 1, 2 or 3 telephones per line. See the reverse side of the termination chamber cover for wiring details. There are limitations on distance when 2 or more phones are connected together.

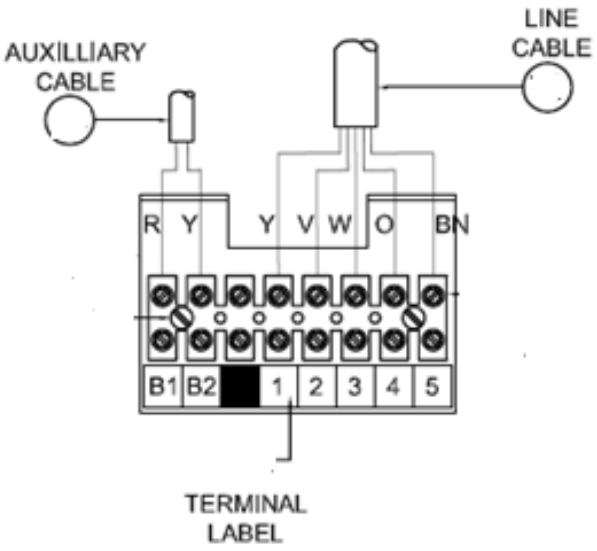


Fig 3 terminal block

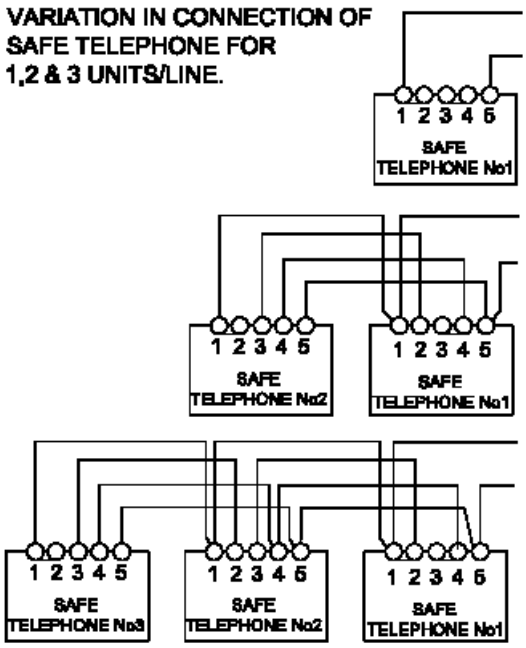

VARIATION IN CONNECTION OF SAFE TELEPHONE FOR 1,2 & 3 UNITS/LINE.
1 2 3 4 5
SAFE TELEPHONE No1
1 2 3 4 5
SAFE TELEPHONE No2
1 2 3 4 5
SAFE TELEPHONE No1
1 2 3 4 5
SAFE TELEPHONE No3
1 2 3 4 5
SAFE TELEPHONE No2
1 2 3 4 5
SAFE TELEPHONE No1

Fig 4 Telephone parallel connection diagram

4 External Signalling OPTIONAL relay not fitted as standard

The A103 provides a galvanically isolated, normally open volt-free contact for an external signalling device, which closes when a ring signal is received by the A103 telephone.
Connection to this contact is made via the terminal block located inside the termination chamber labelled as B1 and B2.
The contacts are rated as follows:

Relay Contacts – Terminals B1 & B2

U_i = 25V

I_i = 2.5A

P_i = 5.0W

C_i = 0

L_i = 0

U_o = 0

I_o = 0

P_o = 0

U_m = 253V*

Note * - Only to be applied while in a safe area.

5 Internal BP004 battery connection.

This battery will be disconnected upon despatch from the factory to prevent full discharge. It will therefore need to be reconnected during the installation process before securing the termination chamber cover.
To reconnect the battery, simply connect the 4 pin socket and plug inside the termination chamber together.

Note: The battery should be fully charged before use. If the battery needs to be recharged, see section **"Battery SAFE AREA tests"** within this guide.

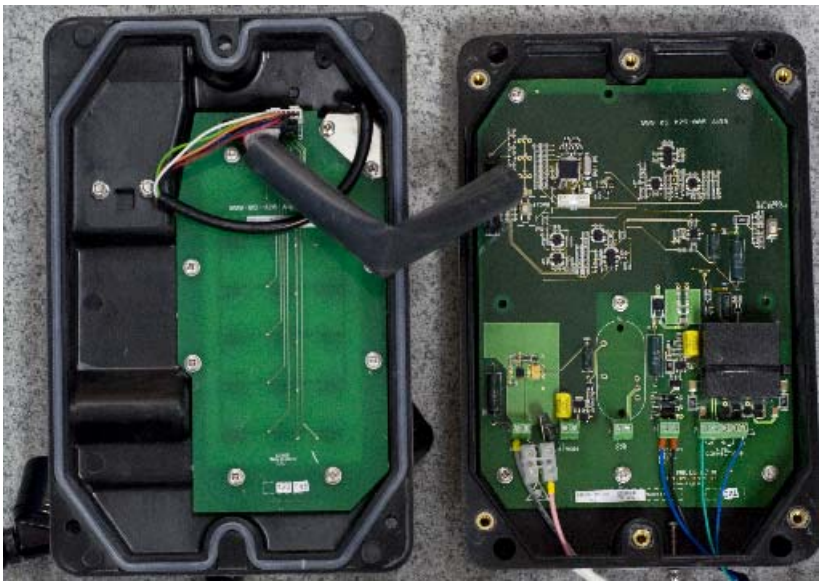
6 Programming and configuration changes

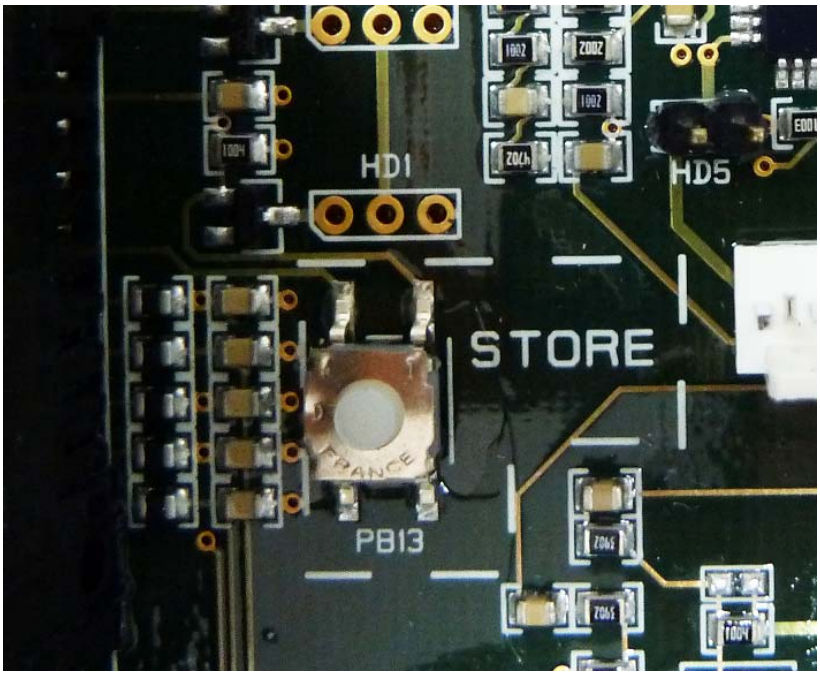
The telephone polyester enclosure must NOT be opened in the hazardous area!

Note: The polyester phone case must be opened to access the store button used during programming and the jumper links for configuration changes.

To maintain the Ingress Protection level of IP 55, all attempts should be made to maintain cleanliness during this process. Also ensure seals are located correct and free from damage.

6.1 PROGRAMMING AN EMERGENCY NUMBER OR EMERGENCY TONE





The Emergency ‘E’ button may be configured to dial a pre-defined emergency number of up to 17 digits.
To program Emergency ‘E’ button with a number:
Press and release the DA key to make the telephone go off hook.
Press the store button located on the main PCB (see figure 5). A short beep should be heard.
Enter the required digits.
Press store button again. Again a short beep should be heard.
Finally press the Emergency ‘E’ button, the telephone will sound a longer beep indicating that the number has been stored.

To program the Emergency ‘E’ button to sound an emergency tone;

Programming the 1850Hz emergency tone

The Emergency ‘E’ button may be configured to generate an 1850Hz tone that is used by some emergency desks if fitted with the tone detector.
To program Emergency ‘E’ button to generate the tone:
Press and release the DA key to make the telephone go off hook.
Press the store button located on the main PCB (see figure 5). A short beep should be heard.
Press store button again. Again a short beep should be heard.
Finally press the Emergency ‘E’ button, the telephone will sound a longer beep indicating that the 1850 Hz tone has been restored.

6.2 FACTORY SETTINGS FOR DTMF.

All the configuration settings are achieved by changing the position of the jumper links located on the main PCB which is inside the polyester telephone enclosure rear casing.

To prepare for installation, undo the three retaining screws shown to remove the front casing from the rear. The screws are not captive in the front casing; a 5mm Allen key is required.

Note: *Do not remove the polyester telephone enclosure rear from the metallic surround as this is not necessary.*

Disconnect the ribbon cable at either the keypad PCB or the main PCB to prevent damage.

The A103 telephone is factory set to tone dialling (DTMF) as default (HD3 & HD4 set to the position as shown below in Figure 3).

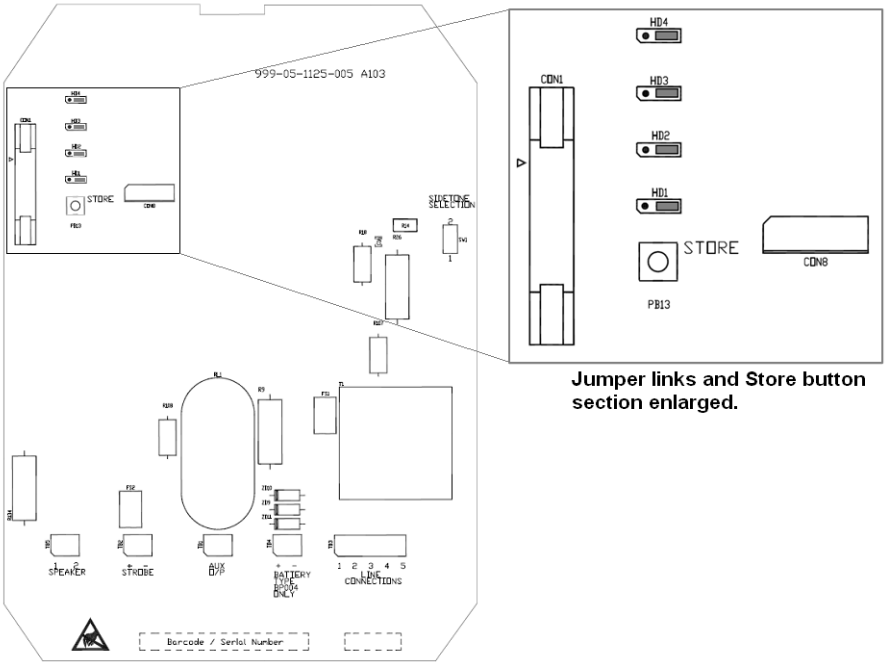


Figure 3 – Main PCB: Store (PB13) & Option jumper positions

6.3 ASSEMBLY OF TELEPHONE ON TO INSTALLED BASE

Ensure that the keypad connection between the base and the keypad PCB is made observing the correct orientation of the connector. A keyway on the connector facilitates ensuring that the ribbon cable connector is correctly orientated. Do not forcibly fit the connectors

Offer the Front Casing to the Rear Casing, ensure that the cable will not be trapped when the Front Casing is tightened down.
Check also that the environmental seal is in position.
Tighten the three securing screws firmly.

7 MAINTENANCE

The A103 telephone is based on highly reliable integrated circuits.
Under normal operation, the telephone is maintenance free with the exception of the BP004 rechargeable battery.

The BP004 is located within the termination chamber. Depending on usage and environmental conditions a good battery will indicate a no load voltage of between 7.2 and 8 volts.
If the battery needs to be replaced carry out the following:

- Isolate the line feeding the A103 so that no power is being applied before removing the termination chamber cover.
- Once the cover has been removed disconnect the battery plug.
- Now remove the battery which is held on to the termination cover by two M4 screws, nuts and washers. Note the nylon washers are located on the outside of the terminal cover to ensure a good seal is maintained.
- Fit the new battery in reverse order remembering to reconnect earth wire and battery plug.
- The line can now be reconnected and the A103 telephone functionality checked.

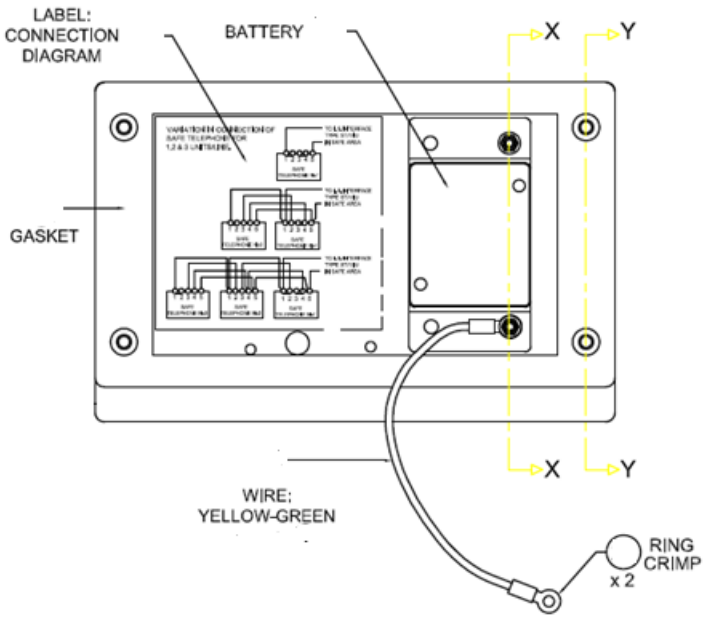
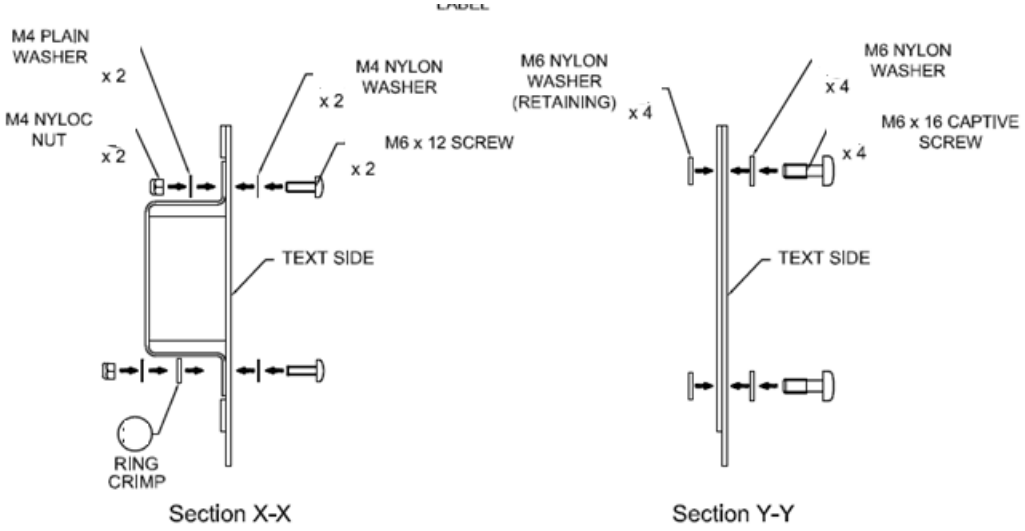


Fig 3 shows Battery location on front plate



7.1 BATTERY SAFE AREA TESTS:

The A103 telephone is designed to provide a charge current of 10mA to maintain a good charge state on the BP004.
If however the BP004 has been allowed to discharge below 6.5 volts, it may be necessary to remove the battery from the installation and recharge it at a higher current in a safe area.

To fully charge a battery:

Us the Austdac Battery charger part number BATT032, this charger can charge 4 batteries at the same time.

Note: The battery should be replaced if after being charged the voltage remains below 7.2 volts.

7.2 PROCEDURES

A programme of regular external visual inspection and cleaning is recommended, with particular attention being paid to -

- Security of the installation.
- Security and integrity of cable entries.
- Security and integrity of the termination chamber cover (certification label) including the integral gasket and washers are clean and fitted correctly.
- Security and condition of the handset cable.
- Condition and operation of the handset including the PTT switch

8 Spares

Replacement parts should be obtained from Austdac using the following part number:

Description	Part number
Battery assembly spares kit	ST061B
Handset assembly spares kit	ST061A
Main PCB assembly spares kit	ST061C
Keypad PCB assembly spares kit	ST061D
Speaker assembly spares kit	ST061E
Terminal chamber gasket	ST061G
Strobe	Strob24a
Battery Charger 4 way	BATT032

9 Recycling Information

The symbol shown here and on the product means that the product is classed as Electrical or Electronic Equipment and should not be disposed with other household or commercial waste at the end of its working life.

The Waste of Electrical and Electronic Equipment (WEEE) Directive has been put in place to recycle products using best available recovery and recycling techniques to minimise the impact on the environment, treat any hazardous substances and avoid the increasing landfill.

Business users should contact their suppliers and check the terms and conditions of the purchase contract and ensure that this product is not mixed with other commercial waste for disposal.

10 Certificate of Conformity

A complete copy can be obtained from the web site or from Austdac

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx ITA 12.0015X issue No.:0 Certificate history:

Status: Current

Date of Issue: 2012-08-23 Page 1 of 3

Applicant: Austdac Pty Ltd
Unit 1, 4 Packard Avenue,
Castle Hill, NSW, 2154
Australia

Electrical Apparatus: Telephone Type A103
Optional accessory:

Type of Protection: Intrinsic Safety

Marking: Ex ia I

Approved for issue on behalf of the IECEx Certification Body: Parveen Akther

Position: Managing Director

Signature: (for printed version)

Date: 23/8/2012

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